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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Young-Joon Rhee, et al.		
Assignee:	Samsung Electronics Corporation		
Title:	Four Color Liquid Crystal Display And Panel Therefor		
Serial No.:	**10/799,396**	**Filing Date:**	March 12, 2004
Examiner:	Lucy P. Chien	**Group Art Unit:**	2871
Docket No.:	AB-1355 US	**Confirmation No.:**	7324

Irvine, California
May 26, 2006

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Sir:

In response to the Final Office Action dated 11/22/2005, please enter the following pre-appeal brief request for review.

REMARKS

Claims 1-28 stand finally rejected. Applicants respectfully appeal these final rejections in light of the following clear error and failure to establish a prima facie case of obviousness. In an Advisory Action dated February 28, 2006, the Examiner also noted that the proposed after-final amendments to the claims will not be entered, because Claims 11, 16, and 21 will require further search. Applicants respectfully traverse the Examiner's requirement for a new search, in view of the adequacy of the initial search.

THE REJECTIONS UNDER 35 U.S.C. §103(A) MISS ONE OR MORE ELEMENTS STATUTORILY REQUIRED TO ESTABLISH A PRIMA FACIE CASE OF OBVIOUSNESS.

The final rejections of Claims 1-28 are all grounded in obviousness rejections under 35 U.S.C. §103(a). Applicants assert that each of the rejections is fatally flawed by clear error, and that no prima facie case of obviousness has been established against any one of Claims 1-28.

A. THE EXAMINER'S REJECTION OF CLAIM 1 UNDER 35 USC §103(A) AS BEING UNPATENTABLE OVER KADOTA (US 6,031,512) IN VIEW OF LYU (US 5,754,261) DEMONSTRATES CLEAR ERROR, AND A PRIMA FACIE CASE OF OBVIOUSNESS AGAINST CLAIM 1 HAS NOT BEEN ESTABLISHED.

Claim 1 of the instant Application recites the limitation "wherein second pixel electrodes do not overlap the color filters." (Final Office Action, page 15). The Examiner rejects Claim 1 under 35 USC 103(a) as being unpatentable over Kadota (US 6,031,512) in view of Lyu (US 5,754,261) on the basis that, in Lyu, "the second pixel electrodes does not overlap the three primary color filters (R,G,B) also known as the first pixel electrodes." Thus, the Examiner mistakenly concludes that a "color filter" is equivalent to a "pixel electrode." Indeed, Lyu clearly teaches that a "color filter" is different from a "pixel electrode."

For example, regarding FIG. 3, Lyu states "a color filter layer including red, green, and blue color filters 65R, 65G, and 65B, respectively, is provided on the second surface of glass substrate 55. ... A black matrix layer 120 ... is provided on the first surface of glass substrate 55, which blocks extraneous light from backlight 55 along the periphery of the pixel electrode 25." (Lyu, col. 2, lines 58-64). A fair reading of this passage demonstrates that Lyu identifies "color filters 65R, 65G, and 65B" as being an entity distinctly different from "pixel electrode 25." This difference is readily apparent by a simple review of the structure given in Lyu FIG. 3. The element indicated by reference numeral 25 in FIG. 3 is distinct and physically separate from the elements indicated by reference numerals 65R, 65G, and 65B. In addition, this distinction and physical separation is clearly shown in Lyu FIG. 4-10. Therefore, the Examiner errs by asserting that, in Lyu, the color filters are equivalent to the first pixel electrodes.

Another example of clear error is seen in a diagram on page 3 of the Final Office Action. This diagram shows clearly that color filters R,G,B are all located above the liquid crystal layer yet the pixel electrodes are located beneath the liquid crystal layer. Rather than support the Examiners conclusion of equivalence, the diagram factually supports Applicants assertion that a color filter is not equivalent to a pixel electrode. This mischaracterization of "pixel electrode" creates a clear error in establishing the prima facia case of obviousness against Claim 1, because an element of the obviousness case simply was not made out. Also, this error propagates into rejections of Claims 2-10, 24, 25, and 26, which depend from Claim 1. Therefore, Applicants

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respectfully request the withdrawal of this rejection of Claim 1-10, 24, 25, and 26 under 35 USC 103(a).

B. THE EXAMINER'S REJECTION OF CLAIM 2 UNDER 35 USC 103(A), AS BEING UNPATENTABLE OVER KADOTA (US 6031512) AND LYU (US 5754261), IN VIEW OF TAKIZAWA (US 6785068) DEMONSTRATES CLEAR ERROR, AND A PRIMA FACIE CASE OF OBVIOUSNESS AGAINST CLAIM 2 HAS NOT BEEN ESTABLISHED.

In the First Office Action, the Examiner alleges that the "color portions" disclosed in Takizawa correspond to the limitation, "first portions," recited in Claim 2, and that the limitation "second portions," also recited in Claim 2, correspond to the "light" portions of Takizawa. The Examiner's rejection of Claim 2 is premised on the mistaken belief that the "first portions" are thicker than the "second portions." To the contrary, in response to the First Office Action, Applicant argued that the "second portions" are thicker than the "first portions."

Significantly, the Examiner did not address this issue in the Final Office Action, and did not state that the second portions are thicker than the "first portions," opting instead to cling to the previous, erroneous assumption that belief that the "first portions" are thicker than the "second portions." Because this distinction was not made and because the persisting mischaracterization that the "first portions" are thicker than the "second portions," the Applicant respectfully assert that an element needed to establish a prima facie case of obviousness was not made out, and that a prima facie case of obviousness was not established. Therefore, the rejection of claim 2 under 35 USC 103(a) contains clear error and ought to be withdrawn, as should be the rejections of Claims 3, 6, and 25, which include this error.

C. THE EXAMINER'S REJECTION OF CLAIM 11 UNDER 35 USC 103(A) AS BEING UNPATENTABLE OVER KADOTA (US 6031512) AND MOROZUMI (RE 33882), IN VIEW OF PARK (US 20020074549), DEMONSTRATES CLEAR ERROR IN AT LEAST TWO WAYS, THEREBY FAILING TO ESTABLISH A PRIMA FACIE CASE OF OBVIOUSNESS AGAINST CLAIM 11.

First, Claim 11 recites the limitations "a gate insulating layer formed on the gate lines; a semiconductor layer formed on the gate insulating layer," that is, a semiconductor-on-gate structure. In contrast, Kadota teaches a gate-on-semiconductor structure – "after semiconductor thin film 2 is patterned to a predetermined shape, a gate insulating film is deposited," upon which "polycrystalline silicon or metal ... is deposited ... to form the gate electrodes 3. (Col. 4, lines 7-13). However, the Examiner turns this clear teaching on its head by stating, in the Final Office Action, page 7, that a "semiconductor layer (2) is formed on the gate insulating layer (4)." The error is carried forward from the Non-Final Office Action dated 06/29/2005, also on page 7. This persistent misunderstanding, and reliance upon Kadota as a reference teaching a semiconductor-on-gate to support the obviousness rejection of Claim 11, demonstrates clear error. The Examiner

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suggests that Park also discloses a semiconductor-on-gate structure, but does not explain how combination of the structure in Park with the other cited references would render Claim 11 invalid.

Second, in the Final Office Action, page 8, the Examiner asserts that Morozumi discloses that the use of white transparent filters (pixels) are used so the overall brightness of the display can be improved." However, the use of a filter teaches away from Claim 11, which specifically recites "wherein the pixel areas include a plurality of white pixel areas having no color filter." Morozumi explicitly teaches the use of a white filter 164 (Col. 10, line 52) driven by the rationale: "[T]here is the problem of getting a poor reproduction of white. In order to solve this problem, a transparent portion 164 is added as a white filter." (Col. 10, lines 55-57). Applicants respectfully point out that "white" is a "color" for which Morozumi requires a "white filter." Applicants further point out that finally-rejected Claim 11 recites "red, green, and blue color filters," for the respective colors, but expressly states "white pixel areas having no color filter."

Applicants respectfully assert that within the context of the remainder of Claim 11 and the specification, a fair construction of this language makes clear that the white pixel areas have no white (color) filter. Nevertheless, in the Response to the Final Office Action, Applicants offered to place Claim 11 in condition for allowance, with a clarifying amendment reciting "wherein the pixel areas include a plurality of white pixel areas having no red, green, blue, or white color filter." However, in the Advisory Action, the Examiner continued the rejection based on Morozumi, and asserted that such a clarification would raise new issues requiring a further search. Applicants respectfully traverse the Examiner's requirement of a new search.

The foregoing demonstrates clear error in the formulation and the application of the Examiner's rejection of independent Claim 11. In addition, these errors propagate into rejections of dependent Claims 12-15, and 28, which depend from Claim 11. Thus, Applicants respectfully request the withdrawal of the rejection of Claim 11-15 and 28, under 35 USC 103(a) as being unpatentable over Kadota (US 6031512) and Morozumi (Re 33882), in view of Park (US 20020074549).

D. THE EXAMINER'S REJECTION OF CLAIM 16 UNDER 35 USC 103(A) AS BEING UNPATENTABLE OVER KADOTA (US 6031512), LYU (US 5,754,261), AND MOROZUMI (RE 33882), IN VIEW OF PARK (US 20020074549) DEMONSTRATES CLEAR ERROR, THEREBY FAILING TO ESTABLISH A PRIMA FACIE CASE OF OBVIOUSNESS AGAINST CLAIM 16.

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Claim 16 clearly recites a non-equivalent semiconductor-on-gate structure, or bottom-gate TFT. However, repeating the persistent misunderstanding applied to Claim 11, above, the Examiner bases an obviousness rejection of Claim 16 on Kadota and Lyu – both reciting a gate-on-semiconductor structure, i.e., a top-gate TFT. In addition, as stated in ***Section C***, above,

Morozumi is an inapt reference. As a result, the Examiner cannot establish a prima facie case of obviousness under 35 U.S.C §103(a) on this basis, so that the rejection of Claim 16 ought to be withdrawn, as should the rejection of Claims 17, 18, and 20.

E. THE EXAMINER'S REJECTION OF CLAIM 21 UNDER 35 USC 103(A) AS BEING UNPATENTABLE OVER KIM (US 6,462,798) IN VIEW OF MOROZUMI (RE 33882) DEMONSTRATES CLEAR ERROR, THEREBY FAILING TO ESTABLISH A PRIMA FACIE CASE OF OBVIOUSNESS AGAINST CLAIM 21.

In the Final Office Action, the Examiner's rejection of Claim 21 specifically points out that "Kim et al does not disclose wherein the pixel electrodes comprise white pixel electrodes that display a white color." The Examiner attempts to overcome this deficiency by combining Kim's structure with Morozumi's structure to display a white color. However, as pointed out in ***Section C***, above, Morozumi is an inapt reference because, to display a white color, Morozumi's requires a "white filter," and thus the combination of Kim and Morozumi cannot be combined to achieve the subject matter of Applicant's Claim 21. As a result, the Examiner cannot establish a prima facie case of obviousness under 35 U.S.C §103(a) on this basis, so that the rejection of Claim 21 ought to be withdrawn, as should the rejection of Claims 22 and 23, which properly depend from Claim 21.

CONCLUSION

For the foregoing reasons, Claims 1 through 28 are in condition for allowance, and allowance of all presented Claims is hereby solicited.

If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 752-7040 is welcomed and encouraged.

Certification of Facsimile Transmission
I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Tina Kavanaugh — May 26, 2006 Date of Signature

Respectfully submitted,

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